Requested Patent: EP0146661A1

Title:

METHOD FOR IDENTIFYING A FAULTY CELL IN A CHAIN OF CELLS FORMING A SHIFT REGISTER ;

Abstracted Patent: US4630270 ;

Publication Date: 1986-12-16 ;

Inventor(s):   PETIT DOMINIQUE A (FR); DU PASQUIER MARC P (FR) ;

Applicant(s):   IBM (US) ;

Application Number: US19840671832 19841115 ;

Priority Number(s):   EP19830430043 19831228 ;

IPC Classification: G01R31/28 ;

Equivalents: DE3375843D, JP1730569C, JP4018793B, JP60142532 ;

ABSTRACT:

A method for Identifying the rank of a faulty cell in a chain of cells forming a shift register in a functional element, each cell including a pair of latches acting as master-slave elements having data inputs, clock inputs, and data outputs, each cell being associated with a combinatorial logic block. In one embodiment the location or rank of the faulty cell is determined by placing the faulty functional element in a static mode, applying a square pulse to its data input, observing the output waveform representing variations of input current that occur during propagation of the pulse along the chain, and detecting the absence of these variations, the absence indicating a defective cell just loaded with a data bit. The rank of the faulty cell is determined in one embodiment by comparing the output waveform with that of a known satisfactory functional element, either manually or automatically.